PATENT ABSTRACTS OF JAPAN

(11)Publication number :   2000-092419

(43)Date of publication of application :   31.03.2000

----

(51)Int.Cl.   H04N   5/765

     H04N   5/781

     G11B 27/031

     H04N   5/262

     H04N   5/91

----

(21)Application number :   10-256591   (71)Applicant :   NIPPON HOSO KYOKAI

<NHK>

----

(54) PROGRAM INFORMATION MANAGEMENT EDIT SYSTEM AND

HIERARCHICAL PROGRAM INFORMATION STORAGE MANAGEMENT

DEVICE USED FOR THEREFOR

(57)Abstract:

PROBLEM TO BE SOLVED: To automatically generate a document required for

the production of a program by utilizing a program configuration that is

hierarchically structured to edit stored base stock information.

SOLUTION: Video audio clip information (recording start end time data of a clip

and structural identifier or the like corresponding to a program structure), that is

recorded by using a base stock information input device 2, is inputted to a

hierarchical program information storage management device 12 via a recording medium 11. A base stock database to be managed by using an identifier (medium ID) indicating the video audio in the recording medium 11 and a clip number, is prepared. To the hierarchical program information storage management device 12, the base stock information and also structural information of a program prepared by a structural information input edit device 1 are inputted. A program edit device 13 calls the program structural information to carry out a program edit work where the continuity of the video audio, the length of a video image used for a cut, the contents of a caption super and display timing are decided by making a video audio clip registered in the base stock database correspond to the cut frame of a defined structure.

LEGAL STATUS [Date of request for examination] 22.04.2004

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

CLAIMS

[Claim(s)]

[Claim 1] Electronize a television broadcasting program work process and it

collects in the process which makes a program. In the program information

management edit system which manages by the framework of are recording with

the structure which was suitable for expressing the semantic structure of a

program in the various program information used, and is edited The system

concerned creates the program structure which a program maker can say also

as engineering drawing of a program in the phase of :program plan. Structure

information input edit equipment inputted into the record control device in the

following material information input device; the structure information on said

program structure by which input are recording was carried out to said record

control device Before a photography person starts photography, while displaying

this on the graphic display device similarly built in using a program structure

identifier selection means to build When it chooses using said selection means

and preparation of photography is completed, to which cut of which scene of

said program structure the image voice to be recorded from now on corresponds

Said record control device is controlled by the inclusion initiation termination

control switch to build in. While following a material information input unit and;

this material information input unit including a means to transmit the image voice

inputted from the image voice input device similarly built in to the following

record medium and recording said image voice It connects with the time

information at the said inclusion initiation and termination time, the record

medium in which said selected program structure identifier is also mentioned,

and; this record medium. The material information transmitted from this record

medium using the structure information from said structure information input edit

equipment The program information management edit system characterized by providing the hierarchization program information storage management equipment which carries out are recording management as hierarchization program information, and the program edit equipment into which the material information accumulated in; this hierarchization program information storage management equipment is edited using the layered-structure-ized program configuration.

[Claim 2] Hierarchization program information storage management equipment characterized by carrying out are recording management of the material information which was mainly used for the program information management edit system according to claim 1, and was transmitted from the record medium of said system as hierarchization program information using the structure information from the structure information input edit equipment of said system.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to systems, such as program

information management in the program work process of a television broadcasting station and a photography material information input, record, and edit.

[0002]

[Description of the Prior Art] Plan from what kind of work intention program work makes a program, and what kind of flow explain a program intention, and a photograph is taken through the structure creation activity which decides how to show the image. While re-evaluating structure based on the image after photography, the editing task which connects the image so that sense of incongruity may not have an intention of a maker in propagation and the continuity of an image is performed. Then, a title supermarket, an announcement comment, etc. are created as text explaining an image, it adds to the image which edit ended as a super imposing image or voice, and a program is completed.

[0003] It is thrown away when it becomes unnecessary when the phase is completed since current is a document in which the document which is needed in each activity phase is drawn up, and the many have the format of dedication although various documents for information arrangement of a maker or the information share between makers were needed in the activity process of such program work, and a program is completed, and the informational deployment is

not made.

[0004] For example, although the text described as the explanatory note and announcement comment of an expression intention in the document which described structure has the text expression and information which are common in many parts, since there is no system which manages information systematically, information is remade each time. Moreover, since correction of the information on a preceding paragraph story is not made when correction arises in a next activity phase, the text which was in agreement with the contents of the program completed when the program was completed does not exist.

[0005] Although an editing task called rearrangement of an image and reconstruction is needed on the other hand in order to complete the photoed image as a program, while a program maker and an edit man look at an image again in this activity phase, a note of time amount and the contents is made, and the program structure assembled in advance is accompanied, and it is performing, rearrangement, i.e., edit, of an image. Although division of the photoed image and an information attachment activity are indispensable in order to do such an activity efficiently, in a current program work process, it cannot afford to leave the information over a cut of each only by making a note of the contents of photography of several lines to the coverage VTR cassette for about 20 minutes at a label, and sticking, or writing to a note at the time of photography

of a program image. Even if it is recording the information on a cut unit in the note etc. finely, it will be difficult to search a lot of image voice accumulated from the text which shows the contents.

[0006]

[Problem(s) to be Solved by the Invention] The technical problem which this invention tends to solve is divided greatly, and followings four are it.

(a) With a program information management current technique, many text used in a program work process is treated as a document of paper, and cannot be operated on the image voice and the unification target which are dealt with by the exclusive device centering on VTR. Moreover, since the formats of the document used differ in each activity phase of program work, informational reuse and a deployment are difficult. Information distributes according to these factors and it is useless.

[0007] (b) On the material image photoed in order to manage efficiently a lot of images in which photography information carried out input photography and to edit them, and in order to use an image for other programs or other applications, it is exact as much as possible, and it necessary to attach the text explaining many contents of an image. the hour entry and the contents on VTR are roughly recorded in a note etc. now in the case of inclusion -- **** -- it does not pass and has not become electronic data. It is necessary to see again the image photoed

when it carried out after photoing the input of this information, and working hours and a help are necessary.

[0008] (c) Edit effectiveness edit is an activity which puts the photoed image in order so that an intention of a maker may be expressed, and defines relation of an image. That is, edit can be said to be the activity which connects the program structure which a program maker considers, and the photoed image. A maker creates the structure of a program supposing an image and the information which connects structure information to the image photoed although it went to take a photograph is not recorded. Therefore, the photoed image is discovered from a VTR tape, and when much time amount is needed for the activity which ties one by one and it uses a lot of image materials in the program of long duration, a program with many amounts of coverage, etc., it becomes a big workload to manage a material itself.

[0009] (d) There is a certain fixed Ruhr in the approach of connecting the photography image on condition of edit. For example, it is the continuous location which stands in two cuts as for the same person, or if an image is connected in the condition that the direction of a face is not in agreement, sense of incongruity will be given to a viewer. Although photography is performed recording following such the Ruhr now only in the program of **** part, such as a drama which places a record person in charge under exclusive contract, such an

activity is not done in photography of many programs. For this reason, in spite of being unable to take a photograph in order of program structure for the reasons of the distance of a photography location, the weather, etc., photography in consideration of the continuity of the above images is difficult.

[0010] Then, the purpose of this invention solves many above-mentioned problems, and uses as an offer plug the hierarchization program information storage management equipment used for the possible program information management edit system and possible it of making various program information treated in a program work process into the layered structure suitable for expressing the structure of a program, carrying out are recording management and editing.

[0011]

[Means for Solving the Problem] In order to attain this purpose this invention program information management edit system Electronize a television broadcasting program work process and it collects in the process which makes a program. In the program information management edit system which manages by the framework of are recording with the structure which was suitable for expressing the semantic structure of a program in the various program information used, and is edited The system concerned creates the program structure which a program maker can say also as engineering drawing of a

program in the phase of :program plan. Structure information input edit

equipment inputted into the record control device in the following material

information input device; the structure information on said program structure by

which input are recording was carried out to said record control device Before a

photography person starts photography, while displaying this on the graphic

display device similarly built in using a program structure identifier selection

means to build When it chooses using said selection means and preparation of

photography is completed, to which cut of which scene of said program structure

the image voice to be recorded from now on corresponds Said record control

device is controlled by the inclusion initiation termination control switch to build in.

While following a material information input unit and; this material information

input unit including a means to transmit the image voice inputted from the image

voice input device similarly built in to the following record medium and recording

said image voice It connects with the time information at the said inclusion

initiation and termination time, the record medium in which said selected

program structure identifier is also mentioned, and; this record medium. The

material information transmitted from this record medium using the structure

information from said structure information input edit equipment It is

characterized by providing the hierarchization program information storage

management equipment which carries out are recording management as

hierarchization program information, and the program edit equipment into which

the material information accumulated in; this hierarchization program information

storage management equipment is edited using the layered-structure-ized

program configuration.

[0012] Moreover, this invention hierarchization program information storage

management equipment is characterized by carrying out are recording

management of the material information which is mainly used for said program

information management edit system, and is transmitted from the record

medium of said system as hierarchization program information using the

structure information from the structure information input edit equipment of said

system.

[0013]

[Embodiment of the Invention] This invention electronizes a television

broadcasting program work process, manages it by the framework of are

recording with the structure which was suitable for expressing the semantic

structure of a program in various program information collected and used in the

process which makes a program, and is a system in connection with the program

information management and the material information input to operate, and

program edit.

[0014] For example, drawing 3 , the cut which is a smallest unit about the

structure of a program as shown in 4 (image without one break), It expresses by

the tree structure hierarchical like the program which has big semantics in the

****s constituted from a scene assembled so that it might have a certain

semantics by two or more cuts, and two or more scenes. While accumulating

and managing [relate and] the image used for the cut which is the component of

each layer, or a scene by program work, voice, the text of narration, a coverage

memorandum, etc. and using information effectively using the relevance of each

information It is the efficient program information management edit system which

enabled edits (migration, copy, etc.) per scene, connoting two or more cuts using

this structure.

[0015] Moreover, the rough structure of a program and the contents of an image

to photo Since it is decided before photography of a program image, ID

(identifier) which shows the location in structure is defined. Add information on a

material with the input unit which can be added and recorded at the time of

image voice inclusion, and enable retrieval and a classification, and also by

rearranging an image using structure information It is the system which has edit

equipment which can advance edit of the program image called rough edit

efficiently.

[0016]

[Example] With reference to an accompanying drawing, an example explains the

gestalt of operation of the invention in this application to a detail below. ****** of

a program work activity is explained with reference to the configuration block

diagram concerning drawing 1 (indispensable configuration) and the drawing 2

(additional thing is also included) illustration this invention program information

management edit system. In order to perform program work using this invention

system, the program structure which can also be said to be engineering drawing

of a program in the phase of plan what kind of program to make, using structure

information input edit equipment 1 is created. It is made expansion of what kind

of story, what kind of image is shown where, and engineering drawing of the

program referred to as what to explain is inputted into the record control device 3

in the material information input device 2 using the actuation screen shown in

Table 1.

[0017] Structure which is equivalent to introduction development turn and

conclusion is specifically inputted as a scene set, and the explanation item and

subject in the inside of each scene set are set up as a scene. Next, it defines by

structure of a cut supposing the image which can express a program intention in

this scene. Moreover, what to explain to a viewer within a program and a thing to

speak are inputted into the announcement comment frame which accompanies

a cut as text. A contact, memorandum information, etc. for coverage which were

acquired by coincidence through investigation and a coverage process are

inputted.

[0018]

[Table 1]

シーン集合	シーン	アナウンスコメント	スーパ	キャプション
明石海峡大橋紹介	明石海峡大橋紹介	兵庫県明石市と淡路島を結ぶ明石海峡大橋です。	明石海峡大橋	明石大橋空撮
		全長は、およそ4千メートルにも及ぶ、世界最長のつり橋です。		大橋パン
		15万トンにも達する橋の重さを支えているのが、2本のケーブルです。これには、「ウルトラスチール」と呼ばれる、特別につくられたワイヤーが使われています。	ウルトラスチール	ケーブルドリー
		「こちらが、明石海峡大橋に使われている・・・ ・・・こんなに大きいです。」		ティナリポート
		直径1.2mの巨大なケーブル。実は良くみると、直径5mmの細いワイヤーが集まった物です。その数はおよそ4万本にもなります。たった1本で、自動車4台分の重さに耐える世界最強のワイヤーです。一体、このワイヤーは、どの様にして作られたのでしょうか。	ケーブルの断面	ワイヤーアップパン
金属材料技術研究所	高橋研究員紹介	茨城県つくば市にある科学技術庁金属材料技術研究所を訪ねました。	金属材料技術研究所	金属材料技術研究所
		明石海峡大橋のケーブルを開発したのは、研究員の高橋稔彦さんです。高橋さんは、30年以上に渡って、強い鉄鋼・ウルトラスチールを作る研究を続けてきました。	高橋稔彦、総合研究官	2人 ズームイン 高橋総合研究官

[0019] Although photography of image voice and inclusion are performed when

program structure and needed image voice are decided to some extent,

equipments called the material information input unit 2 in this invention, such as

a mere camera in which only the conventional image voice is mentioned at this time, and VTR, are used. The structure information on the program beforehand created with structure information input edit equipment 1 is inputted into the material information input unit 2, and it accumulates in the record control device 3. A photography person chooses whether to which cut of which scene of program structure the image voice to be recorded from now on corresponds using the program structure identifier (structure ID) selection carbon button 4 while he reads the structure information accumulated in the record control device 3 using the program structure identifier (structure ID) selection carbon button 4 of the material information input device 2 and displays on the graphic-display device 7, before he starts photography. If preparation of photography is completed, transfer record of the image voice which controls the record control device 3 by the inclusion initiation termination control switch 5, and is inputted from the image voice input device 8 will be carried out at a record medium 11. At this time, the structure identifier (structure ID) 4 which shows the time information at the time of photography initiation and termination and the location in the selected program structure is recorded on field where the field which records image voice is another. As one unit, a clip, a call, and a number are attached for this and from inclusion initiation to a halt is managed.

[0020] In the information input device 10 connected to the record control device

3 (a cable and wireless are not asked), various information (a photographic subject, photography location, etc.) over the image voice under photography can be inputted checking the image voice at the time of photography on the graphic display device 7 of the material information input device 2, and it can record on a record medium 11 as information for every clip. Moreover, the insertion point information on a configuration etc. can be added to the image added using the information input device 10 to record the image voice which was not planned in a configuration examination phase.

[0021] The image voice and clip information (the inclusion initiation end time data of a clip, the structure identifier corresponding to program structure, photographic subject information, etc.) which were recorded using the material information input device 2 are inputted into hierarchization program information storage management equipment 12 via a record medium 11. The material database managed by the identifier (medium ID) which shows the inputted image voice to a record medium 11, and the clip number is created. The photographic subject information independently added by the information input device 10 as index information used for retrieval at this time is used, and also inclusion of image voice, the initiation termination time information of the photography recorded on coincidence, and the structure identifier (program ID) which cut of which scene in program structure that image voice supports are

registered into a material database as information on a clip.

[0022] The structure information on the program created with structure information input edit equipment 1 with material information is inputted into hierarchization program information storage management equipment 12. This program structure information is called with program edit equipment 13, and the editing task of a program which decides the contents and its display timing of the continuity of image voice and the die length of the image used by each cut, and a title supermarket to be the cut frame of the defined structure by matching the image voice clip registered into the material database is performed. Moreover, it is also possible to add a new program structure element and to assign there to the image which was not assumed in advance. It can carry out automatically using the structure identifier (program ID) which shows the location in the program structure to which the activity which matches the cut frame and material clip of this editing task was added by the material clip.

[0023] Moreover, edit of replacing with others and a scene the scene which uses the layered structure (drawing 3 , drawing 4) which is the management format of the program information on this invention with program edit equipment 13, and includes two or more cuts (image), with the structure maintained, or deleting is possible. Since the announcement comment, the title supermarket, etc. are similarly matched with one cut as text which should be explained there, if

sequence of a cut is replaced, such information also accompanies and can be replaced. If matching of cut structure and a clip finishes, image voice will also be changed only by making a change on a configuration. An edit result can use the image voice accumulated in hierarchization program information storage management equipment 12, and can preview it immediately.

[0024] if a program is made by this invention system, while image voice is arranged and accumulated by the hierarchized program structure, the text (an announcement comment, title supermarket, etc.) of various kinds will be added to each image voice, and it will be used for hierarchization program information storage management equipment 12 in a program -- information can be accumulated altogether. Therefore, a script required for program work, a configuration table, a continuity with drawings, etc. can be outputted by taking out and processing required information. Moreover, it can use also as a database for the image voice retrieval at the time of using the secondary image voice.

[0025] Furthermore, as shown in the block diagram of drawing 2 , information, such as a location of the image voice input device 8, and a direction, the amount of zoom of a lens, is collected with the photography data collection device 9 formed in the material information input device 2, and it records on a record medium 11 with the record control device 3 as information which corresponds for

every coma under photography. While composition of the image which used camera work information by this etc. is attained, it becomes possible to make it correspond to a retrieval keyword called a zoom using the variation of lens information, or to take out the image which is carrying out the pan using the positional information of a camera, and it becomes effective in case an image required at the time of editing operation is searched.

[0026] The voice which furthermore explains the contents of an image which a photography person is photoing by photography person voice MEMOMAIKU 6 is recorded on a field different from the voice used by broadcast. After inputting into hierarchization program information storage management equipment 12 the material information to which this voice memorandum was added, alphabetic character computerization is carried out with a help or a voice recognition unit, and by adding and recording a hour entry, index attachment (retrieval keyword) attachment by the image with a photography person's voice becomes possible, and can do more effectively the image retrieval activity at the time of edit using this index information.

[0027] Although drawing 1 and the drawing 2 illustration example block diagram have explained the gestalt of operation of this invention above, probably, the possible thing of this invention system of various kinds of deformation within the summary of invention indicated by the claim and modification will be clear,

without being limited to this.

[0028]

[Effect of the Invention] The following advantages are acquired by using this invention system. That is, various kinds of program information classified and accumulated is extracted if needed, and since it can accompany and rearrange into program structure, various documents which are needed for program work, such as a configuration table and an announcement script, can be automatically made from program information storage management equipment.

[0029] Since it uses from the structure examination phase of a program to the program edit phase, succeeding the inputted text, a deployment of text is attained and it becomes unnecessary moreover, to input the same information repeatedly.

[0030] Furthermore, since program edit can be considered and edited from the structure side of a program unlike the conventional image edit system, the program edit which is not caught only by relation of an image is attained.

[0031] Moreover, if the are recording medium of an image is made into the thing in which random access is possible, it is possible to move two or more images collectively using structure information or to copy and delete, edit effectiveness will be raised by leaps and bounds, many edit patterns will actually be seen as an image, and the advantage of being able to bring close to a work intention of a

maker more will arise.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The example configuration block diagram concerning this invention system (essential element block diagram)

[Drawing 2] The block diagram which added the additional element to the drawing 1 illustration block diagram further

[Drawing 3] Drawing showing one example of program structure

[Drawing 4] Drawing showing the framework of are recording of program information

[Description of Notations]

1 Structure Information Input Edit Equipment

2 Material Information Input Unit

3 Record Control Device

4 Program Structure Identifier Selection Carbon Button

5 Inclusion Initiation Termination Control Switch

6 Microphone for Photography Person Voice Memorandum

7 Graphic Display Device

8 Image Voice Input Device

9 Photography Data Collection Device

10 Information Input Device

11 Record Medium

12 Hierarchization Program Information Storage Management Equipment

13 Program Edit Equipment